

## CLAIMS

### What Is Claimed Is:

1. A method for identifying an electronic device by its transmission characteristics, the method comprising the steps of:

receiving an incident transmission, said transmission defined by frequency characteristics including a final resting frequency;

generating a unique signature responsive to said characteristics of said transmission;

classifying said signature responsive to said final resting frequency; and

comparing said signature with a set of other transmission signatures.

2. The method of Claim 1, wherein said generating comprises generating said unique signature by applying a Fourier Transform to said received transmission.

3. The method of Claim 2, wherein said receiving comprises receiving a transmission defined by at least a keyup frequency characteristic in addition to said final resting frequency.

4. The method of Claim 3, further comprising:

a first generating step prior to said generating step, said first generating step comprising generating an intermediate frequency sample responsive to said received incident transmission, said intermediate frequency sample defined by said frequency characteristics; and

a second generating step prior to said generating step, said second generating step comprising generating a digital intermediate frequency sample based on said intermediate frequency sample.

5. The method of Claim 4, wherein said generating step is responsive to said frequency characteristics of said digital intermediate frequency sample.

6. The method of Claim 5, wherein said comparing step comprises comparing said transmission signature with a set of other transmission signatures, all of said other transmission signatures defined by a final resting frequency classification substantially the same as said transmission signature of said received transmission.

7. The method of Claim 6, further comprising a second comparing step, said second comparing step being executed when said set of other transmission signatures fails to comprise a transmission signature defined by a final resting frequency classification substantially the same as said transmission signature of said received transmission, said second comparing step comprising comparing said received transmission signature to one or more sets of other transmission signatures defined by final resting frequency classifications not substantially the same as said transmission signature of said received transmission.

8. The method of Claim 7, further comprising a data repository addition step after said second comparing when said set of other transmission signatures fails to comprise a transmission signature substantially the same as said transmission signature of said received transmission, said data repository addition step comprising adding said transmission signature of said received transmission to a data repository.

9. The method of Claim 8, wherein said data repository addition step comprises adding said transmission signature of said received transmission to a set of said data repository defined by said final resting frequency of said received transmission.

10. A system for classifying incident radio frequency transmission signals, comprising:

a receiver for receiving a said incident signal;

a transmission signature device, said transmission signature device comprising:

an analog-to-digital converter device for converting said incident signal into digital data format;

a fourier transform generator for generating a transmission signature of said received signal by applying a fourier transform to said digital data; and

a matching system for matching said transmission signature of said transmission with a set of transmission signatures stored in a data repository associated with said matching system.

**11.** The system of Claim 10 wherein said transmission signature device further comprises a classification system for associating a classification to said transmission signature according to the final resting frequency of said incident signal.

**12.** The system of Claim 11, wherein said matching system matches said transmission signature with a set of transmission signatures stored in said data repository, said set comprising transmission signatures having classifications substantially similar to said classification of said received transmission.